MARGOT BLUES
CONSULTING ARBORIST

ARBORICULTURAL IMPACT ASSESSMENT (AIA) REPORT

Prepared For:	Fiona Rae
Site Address:	15 Hudson Parade Avalon Beach
Inspection Dates:	17th June, 2020
Report Date:	17 July, 2020

Figure 1: The property.

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1 Executive Summary

1.1.1 Margot Blues Consulting Arborist has been engaged by the owner to inspect and report on trees within the front garden for development application purposes. Proposed is a detached self contained studio, carport upgrade and hardstand (driveway) modification. The existing carport structure is to be demolished.

1.1.2 The report's aim was to determine tree health, vigour, assigned retention values and in accordance with the proposal, identify which are retainable.

1.1.3 Trees were visually inspected in accordance with VTA (Visual Tree Assessment); calculations adhere to AS4970-2009 *Protection of Trees on Development Sites* and assigned retention valued based on STARS (IACA publication). The trees were mature and generally in fair to good health and condition.

1.1.4 Assessment outcomes determined five (5) trees are retainable being:

- T1 – *Livistona australis* located within the property
- T3 – Unidentified tree (deciduous at the time of inspection) – Council verge
- T4 – *Brachychiton acerifolius* – Council verge
- T5 – *Eucalyptus punctata* – Council verge
- T5 – *Corymbia maculata* – Council verge

1.1.5 Assessment determined T2 *Schefflera actinophylla* – an exempt listed species – is not retainable.

1.1.6 Recommendations:.

- The weeds as mentioned in paragraphs 4.3.2, 4.3.3 & 4.3.4 are effectively eradicated within and in close proximity to the property's front boundary.
- Request council arborist to inspect base of T5 *Eucalyptus punctata* (Grey Gum).

1 Table of Contents

2 Introduction

2.1 Background

2.1.1 Margot Blues Consulting Arborist has been engaged by the owner Ms Fiona Rae to assess construction impact to six (6) trees inclusive of four trees located on the front verge for development application purposes.

2.1.2 The report's aim was to assess the trees in close proximity to the proposal for retention purposes based on their health and vigour and the likely construction impact.

2.1.3 A stand-alone studio is to be positioned in the front garden with carparking and storeroom provision beneath requiring excavation. The upper level generally is above grade. The existing carport is to be demolished.

2.1.4 Garden terracing occurs between studio and main dwelling.

2.1.5 Information supplied and relied upon for the preparation of this report include:

- Architectural suite of plans by Annabelle Chapman Architect, dated 28/7/2020.
- Survey by Pinnacle Land Surveyors dated 15/5/2020.

2.1.6 The use of these documents is acknowledged with thanks.

2.1.7 The report's aim was to:

- Conduct a visual assessment of trees protected in accordance with Northern Beaches Council.
- Categorise the tree's priority for retention (High/Medium/Low Retention).
- Determine the construction impact to trees as per the Australian Standard AS4970:2009 *Protection of trees on development sites.*

3 Methodology

3.1.1 Tree inspection was performed using elements of VTA (Visual Tree Assessment); a methodology derived by Mattheck and Breloer (1994). Assessment included:

- Foliage condition (volume and colour); the presence of pests and diseases, canopy dieback, deadwood and epicormic growth.
- Tree condition included assessment of structural stability, previous pruning and any damage/disturbance which may have occurred.

3.1.2 No destructive or aerial investigations occurred to any tree.

3.1.3 Tree Protection Zones (TPZ) and Structural Root Zones (SRZ) have been calculated as per AS4970-2009 *Protection of trees on development sites*. Measurements were achieved with the assistance of a builder's tape measure.

3.1.4 Appendix 2– Tree identification and Incursion displays tree numbering for identification purposes (read in conjunction with Appendix 1 – Tree Data Summary.

3.1.5 Appendix 3 – Photographs.

3.1.6 Tree retention values have been assessed based on the IACA *Significance of a Tree, Assessment Rating System (STARS)* methodology – Referenced Appendix 4 – IACA STARS (Retention value matrix).

3.1.7 This report is considered limited to what could reasonably be seen from ground level and plans provided. The report expresses no commentary on changes which may have, or will, impact the trees or their environment outside the scope of works.

4 Results

4.1 Desktop Research

4.1.1 Research from the NSW Planning portal accessed (3/7/20) identified the following for the property:

- Zoning: E4– Local Environmental Living.
- Biodiversity: Listed

4.1.2 In accordance with published directives – Northern Beaches Council. – A Protected tree is:

- Having attained a height of 5 metres or greater
- Not listed on the exempt species list or
- Not listed in the *Biosecurity Act 2015*

4.2 Topography

4.2.1 The property sloped upwards from street to main residence. The gradient change from front boundary to rear of studio approximated 5.5 metres (Survey).

4.3 The Site

4.3.1 The upper half of the front garden was well maintained. The lower area (to be developed) was highly impacted by environment weeds such as broad leaf privet (*Ligustrum lucidum);* morning glory *(Ipomoea indica);* cats claw creeper *(Dolichandra unguis-cati,* Cocos palm *(Syagrus romanzoffiana*) plus others.

4.3.2 Cat's Claw creeper was extensive, particularly along the eastern side boundary and above the existing carport roof. Evidence of spread included on T1 the palm and telegraph pole – front verge.

4.3.3 The latter is classified as a "Weed of National Significance" under the NSW *Biosecurity Act 2015.* The biosecurity duty for this plant in the Greater Sydney area is to prevent spread, mitigate the risk of the plant being introduced to their land. Land managers are to reduce the impact on priority assets (neighbouring properties and environment). The plant should not be bought, sold, grown, carried or released into the environment.

https://weeds.dpi.nsw.gov.au/Weeds/CatsClawCreeper#biosecurity

4.3.4 In short, this weed must be eradicated from the property. It produces an abundance of winged viable seeds which are efficiently spread by water and wind.

4.4 The Trees

Of the six (6) assessed trees:

- T1 - *Livistona australis* Cabbage Palm was within the upper front garden
- T2 - *Schefflera actinophylla* Umbrella Tree – Exempt listed
- Four (4) council trees located on the front verge (T3 Deciduous sp, T4 Illawarra Flame tree, T5 Grey gum and T6 Spotted gum).

All trees were mature and appeared in fair to good health.

The deciduous trees (T3) was not identified at the time of inspection.

4.5 The Development

The existing carport is to be demolished and replaced with a stand-alone, self contained studio. The proposed ground floor extends closer to the front boundary with limited excavation into the embankment beneath the building, required. The first floor living area encroaches closer to the main dwelling and partially suspends above the carport. Internal stairs are positioned on the eastern side of the studio and OSD tanks close to the eastern boundary.

A retaining wall associated with garden terracing and the upper parking bay is shown.

4.6 Construction Impact to each Tree

The following table is to be read in conjunction with Appendix 2.

Tree ID	Species	Comment	Recommendation
T1	*Livistona australis* Cabbage-Tree Palm	**Construction impact**: Minor less than 10% in accordance with AS4970-2009. Driveway and upper hardstand encroachment	Retention Value High **Retain**
T2	*Schefflera actinophylla* Umbrella Tree	**Construction impact:** Major **Tree is not retainable as it falls within the footprint of the proposed building.**	Retention Value Low (Exempt listed) **Remove**
T3^	Unidentified (Deciduous	**Construction impact**: Minor (less than 10%) Building encroachment .	Retention Value Unknown **Retain**
T4^	*Brachychiton acerifolius* Illawarra Flame Tree	Tree in good health	Retention Value Low: **Retain.**
T5^	*Eucalyptus punctata* Grey Gum	Tree in good health **Construction impact**: Minor (less than 10%) Unaffected by the development . Council to assess tree particularly basal section where damaged and fungal mycelium present. Tree requires deadwooding.	Retention Value High **Retain**
T6^	*Corymbia maculata* Spotted Gum	Trees generally in good health **Construction impact**: Minor (less than 10%) Stormwater	Retention Value High **Retain**

Table 1: Tree impact summary. TPZ encroachments or Construction Impact are classed as either Minor or Major as per the Australian Standard AS4970:2009 – The protection of trees on development sites. Table to be read in conjunction with Appendix 1, 2 & 4.

5 Conclusion

5.1.1 A total of six (6) trees inclusive of four street trees have been assessed for development application purposes.

5.1.2 Of the two trees within the property, the proposal enables the retention of T1 *Livistona australis* and requires the removal of T2 *Schefflera actinophylla* – an exempt listed tree (Northern Beaches Council).

5.1.3 Of the four trees located on the council verge (T3-T6 inclusive) are mainly impacted by the positioning of the stormwater running parallel with the front boundary.

6 Recommendation

Based on the supplied plans the following recommendations include -

6.1 Trees to be retained

High Retention	Moderate Retention	Low Retention	Exempt Species
T1, T5^ & T6^	T3^, T4^		

Table 1: Trees that are retainable based on the proposal. ^ Denotes trees outside the property boundary.

6.2 Trees to be removed

The following tree requires removal based on the proposal.

High Retention	Moderate Retention	Low Retention	Exempt Species
			T2

Table 2: Trees requiring removal.

6.3 Council assessment of T5

It recommended a request for Council Arborist to assess base of T5 be lodged via their Customer Service.

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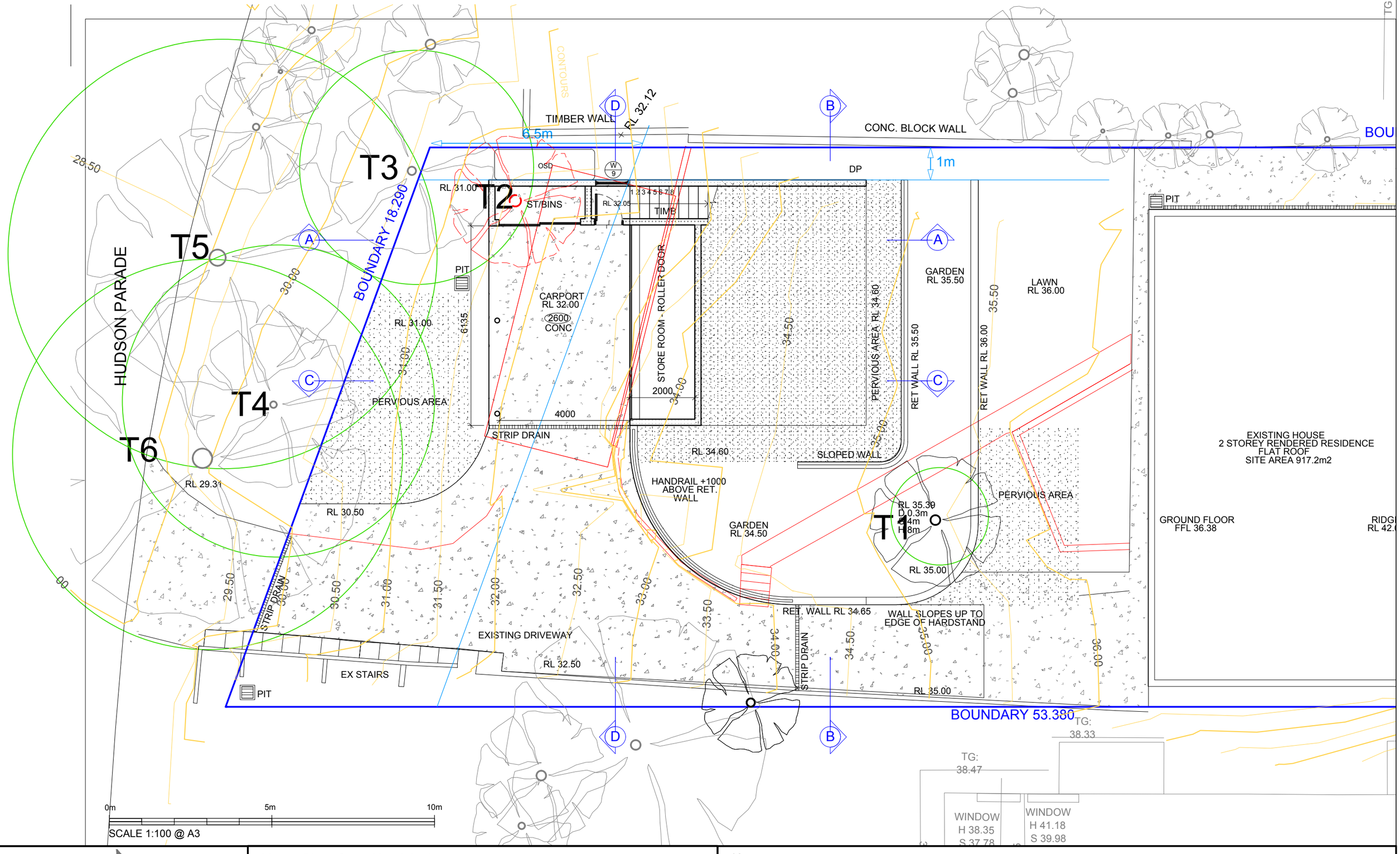
Appendix 1: Tree Data Summary 15 Hudson Parade Avalon Beach

Tree ID	Species Common Name	Height (m)	DBH (cm)	DGL (cm)	Foliage condition	Maturity	Trunk type	Canopy Diam Symmetry	Stability	Vigour	Canopy deadwood	Retention value SRIV	Notes	TPZ	SRZ
1	*Livistona australis* Cabbage Palm	6	18	20	Excellent	Mature	Single upright	7 Balanced	Appears stable	Good	0-5%	High	Palm within normal limits. No problems seen. Cats claw creeper on trunk.	1.5	1.5
2	*Schefflera actinophylla* Umbrella Tree	8	45	55	Good	Mature	Twin	7 Balanced	Appears stable	Good	0-5%	Low	Tree listed on Council's exempt species list.	5.4	2.6
3^	*Unidentified* Deciduous tree	12	30	33	Deciduous	Mature	Single bias lean to North	8 All to the north	Appears stable	Unknown	0-5%		Deciduous tree which appeared in good condition. No evidence of disease or systemic branch failure.	3.6	2.1
4^	*Brachychiton acerifolius* Illawarra Flame Tree	12	40	45	Excellent	Mature	Twin upright	6	Appears stable	Good	0-5%	Low	Good health and condition. Evidence of compression fork development where single trunk divides. Tree listed on Council's exempt species list.	4.8	2.4
5^	*Eucalyptus punctata* Grey Gum	18	55	63	Good	Mature	Single upright	7 Balanced	Appears stable	Good	5-10%	High	White mycelium (fungi) on lower trunk. Old open wounding on east trunk face. Good reaction wood development around wound. Tree located on verge and requires deadwooding.	6.6	2.7
6^	*Corymbia maculata* Spotted Gum	18	*50*	55	Good	Mature	Single upright	16 Balanced	Appears stable	Good	0-5%	High	No problems seen.	6.0	2.6
	NOTES														



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Margot Blues Consulting Arborist

Title:	Tree Identification
DATE:	7/28/2020
Project:	A2 15 Hudson Pde Avalon Beach.dwg
Scale:	Relative to supplied documents

Key:

- Tree Protection Zone (TPZ)
- TPZ Encroachment
- Observed Surface / First Order Root Growth
- Protective fencing line
- Sructural Root Zone (SRZ)
- Proposed Root-mapping area
- Access path

Appendix 3 – Photographs

Photo 2: T1 LHS photo. Photo looking towards the street. Plants mid photo largely privet.

Photo 1: Cats Claw creeper on trunk of T1.

Photo 4: T2 & T3 plus cats claw on garage roof.

Photo 3: Trees on council verge

Photo 5: Heavy infestation of Cats Claw Creeper.

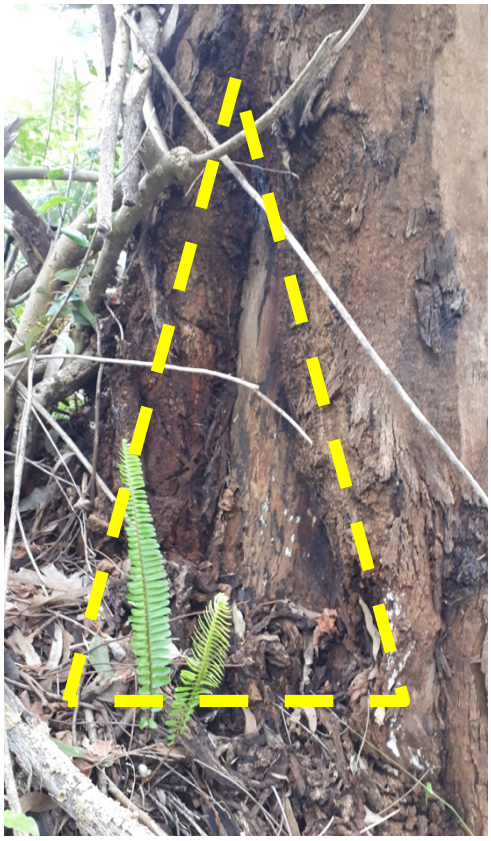


Photo 6: Request Council check base of T5 Eucalyptus punctata. Open wound plus white mycelium.

Appendix 4 – IACA STARS (Retention value matrix)

Tree Significance - Assessment Criteria

1. High Significance in landscape

- The tree is in good condition and good vigour;
  - The tree has a form typical for the species;
  - The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age;
  - The tree is listed as a Heritage Item, Threatened Species or part of an Endangered ecological community or listed on Councils significant Tree Register;
  - The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity;
  - The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values;
  - The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa in situ - tree is appropriate to the site conditions.

2. Medium Significance in landscape

- The tree is in fair-good condition and good or low vigour;
  - The tree has form typical or atypical of the species;
  - The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area
  - The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street,
  - The tree provides a fair contribution to the visual character and amenity of the local area,
  - The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa in situ.

3. Low Significance in landscape

- The tree is in fair-poor condition and good or low vigour;
  - The tree has form atypical of the species;
  - The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings,
  - The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area,
  - The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen,
  - The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa in situ - tree is inappropriate to the site conditions,
  - The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms,
  - The tree has a wound or defect that has potential to become structurally unsound.

  Environmental Pest / Noxious Weed Species
  - The tree is an Environmental Pest Species due to its invasiveness or poisonous/ allergenic properties,
  - The tree is a declared noxious weed by legislation.

  Hazardous/Irreversible Decline
  - The tree is structurally unsound and/or unstable and is considered potentially dangerous, - The tree is

dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

The tree is to have a minimum of three (3) criteria in a category to be classified in that group.

Note: The assessment criteria are for individual trees only, however, can be applied to a monocultural stand in its entirety e.g.

USE OF THIS DOCUMENT AND REFERENCING

The IACA Significance of a Tree, Assessment Rating System (STARS) is free to use, but only in its entirety and must be cited as follows:

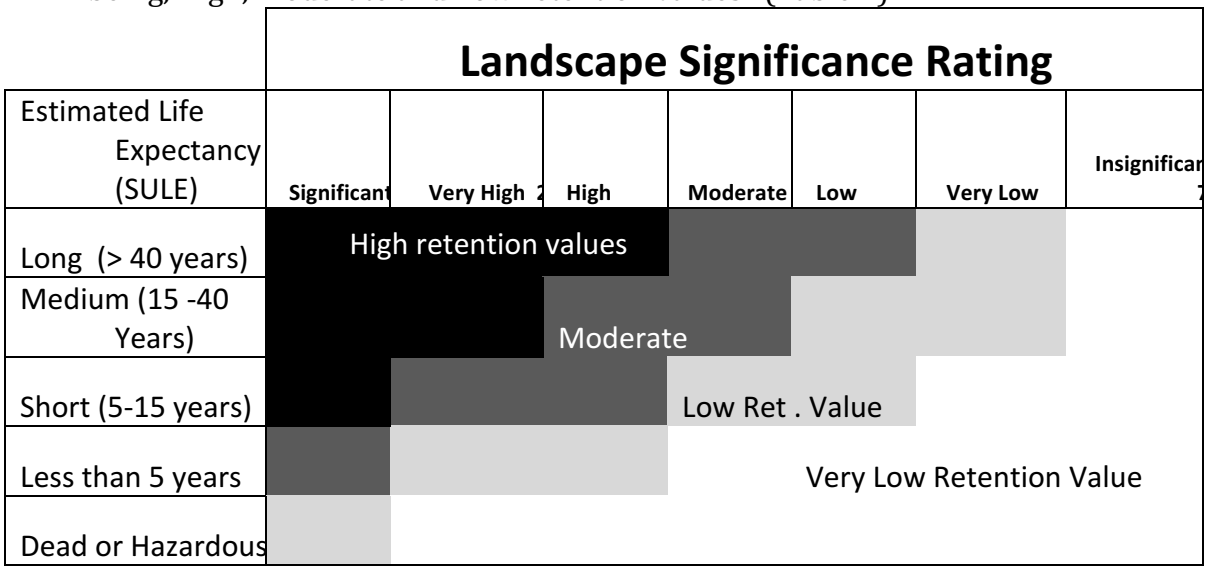
IACA, 2010, IACA Significance of a Tree, Assessment Rating System (STARS), Institute of Australian Consulting Arboriculturists, Australia, **www.iaca.org.au**

REFERENCES

Australia ICOMOS Inc. 1999, The Burra Charter - The Australian ICOMOS Charter for Places of Cultural Significance, International Council of Monuments and Sites,**www.icomos.org/australia**
Draper BD and Richards PA 2009, Dictionary for Managing Trees in Urban Environments, Institute of Australian Consulting Arboriculturists (IACA), CSIRO Publishing, Collingwood, Victoria, Australia.
Footprint Green Pty Ltd 2001, Footprint Green Tree Significance & Retention Value Matrix, Avalon, NSW Australia, **www.footprintgreen.com.au**

Tree Priority Retention Matrix

The retention model following visually describes the process used in determining retention values of the seven trees. Three retention classifications are clearly defined, they being, High; moderate and Low retention values. (Table 1).



Source: (Moreton, A., 2006).